



# The 7<sup>th</sup> meeting of the GEOSS Asian Water Cycle Initiative (AWCI)

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## INFORMATION SYSTEM

«Dangerous Hydrometeorological phenomena of Uzbekistan»



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# Dangerous Hydrometeorological phenomena in territory of Uzbekistan

- **Mudflows**
- **Floods and flooding**
- **Avalanche**
- **Hydrological drought**
- **Atmospheric drought**
- **Temperature air extremes**



Conduction of qualitative monitoring is necessary to reduce the damage from the manifestation of hydrometeorological hazards.

Monitoring is carried out in accordance with the decree of the President of the Republic of Uzbekistan – “On Measures for the Prevention of emergency situations related to the flood, mudflow, avalanches and landslides, and liquidation of their aftereffects” , № 585 of 19 February 2007.

**Ministries and departments involved in implementation of monitoring of flood events are**

**Government Flood Commission**

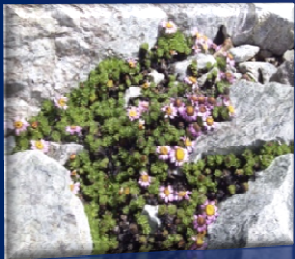
**Ministry of Emergency situation**

**Uzhydromet**

**Goskomgeologiya**

**Ministry of Agriculture and Water Economy,  
Gosvodkhoznadzor**

**Ministry of Interior, Ministry of Foreign Affairs, Ministry of Finance, Ministry of Health, Province and City Administration**





# Aims of Monitoring

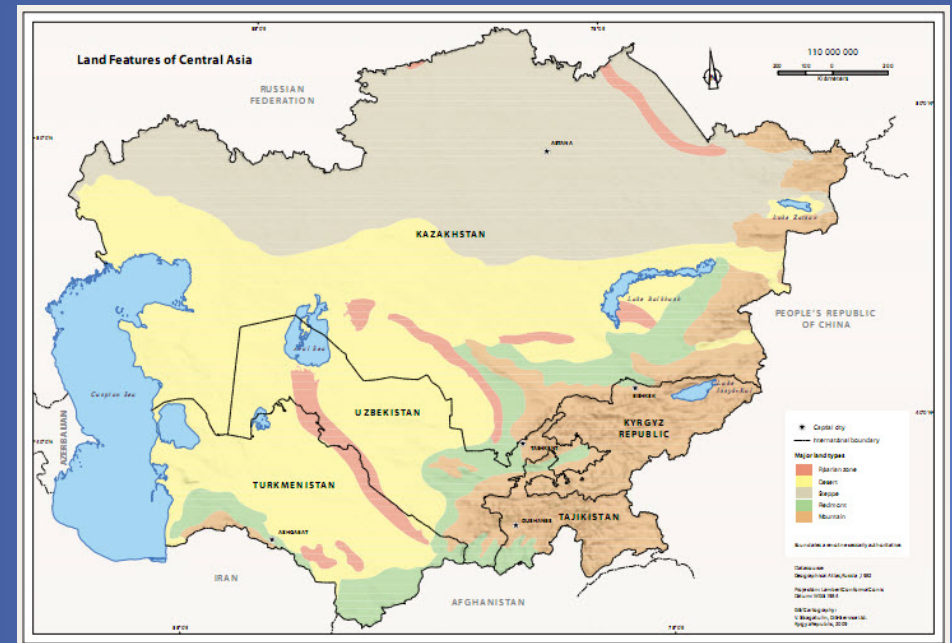
- ✓ **Definition of representative spatial-temporal distribution of dangerous hydrometeorological phenomena based on statistical analysis of historical and newly obtained data;**
- ✓ **Assessment of the current and future state of the objects that pose a potential threat of hazardous hydrometeorological events;**
- ✓ **Preparation of background and specialized warnings of dangerous meteorological phenomena on the short-term (up to 5 days) and long term;**
- ✓ **Compilation of a cadastre of the dangerous hydrometeorological phenomena.**



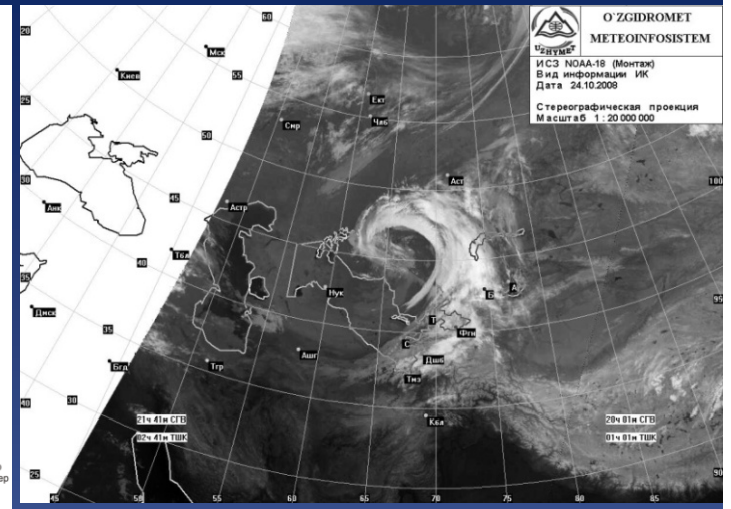
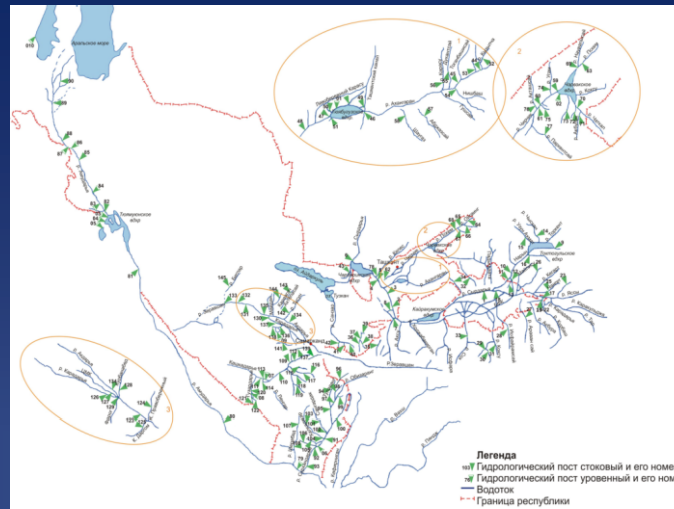


# Subject of Monitoring

- ✓ Spatial-temporal characteristics of the manifestations of hydrometeorological hazards such as strong winds, heavy rains, frost, drought, mudflows and avalanches;
- ✓ Territory, population and economic objects, threat by hydrometeorological hazards in territory of Republic Uzbekistan and adjacent territories (Republic Kyrgyzstan and Republic Tajikistan);
- ✓ The damage caused by the dangerous hydrometeorological phenomena.



# Means of monitoring



- ✓ 78 meteorological stations;
- ✓ 145 hydrological stations;
- ✓ Remote sensing methods (space data NOAA 17,18);
- ✓ Aero visual control, (95 points of observation).

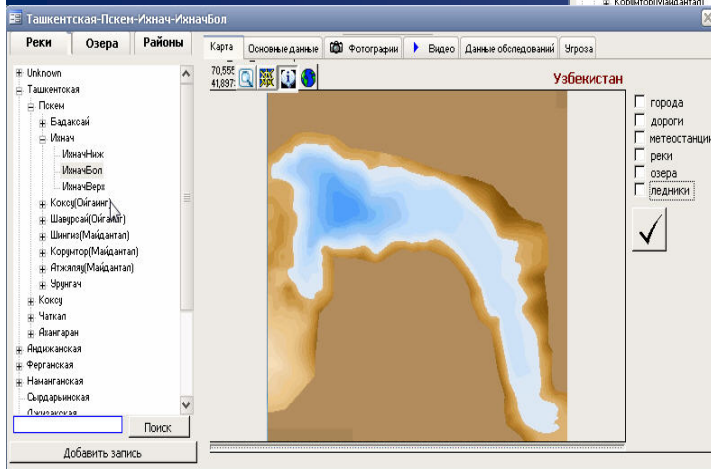
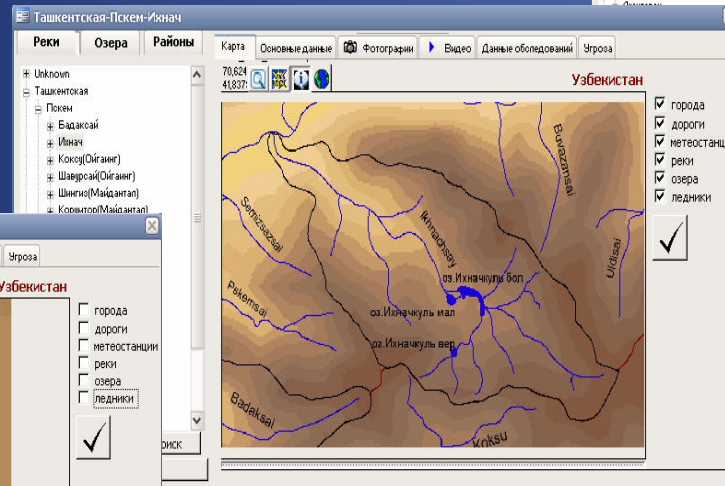
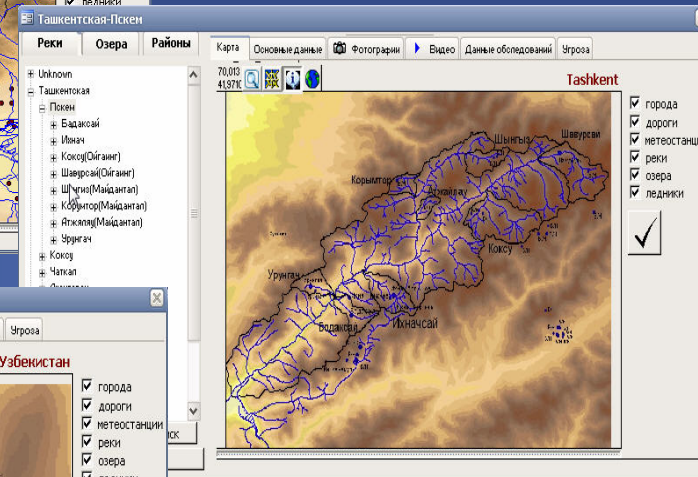
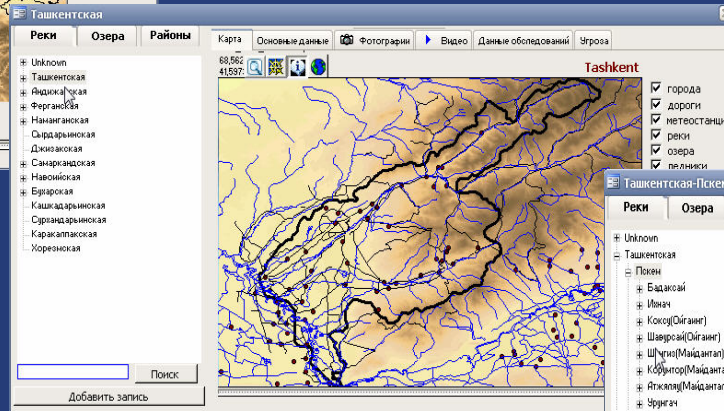
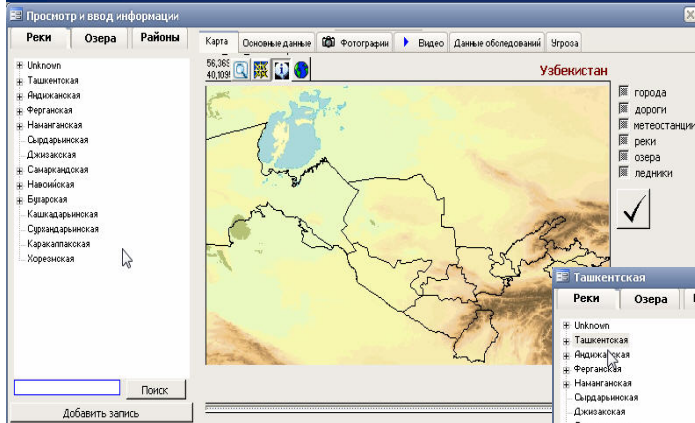






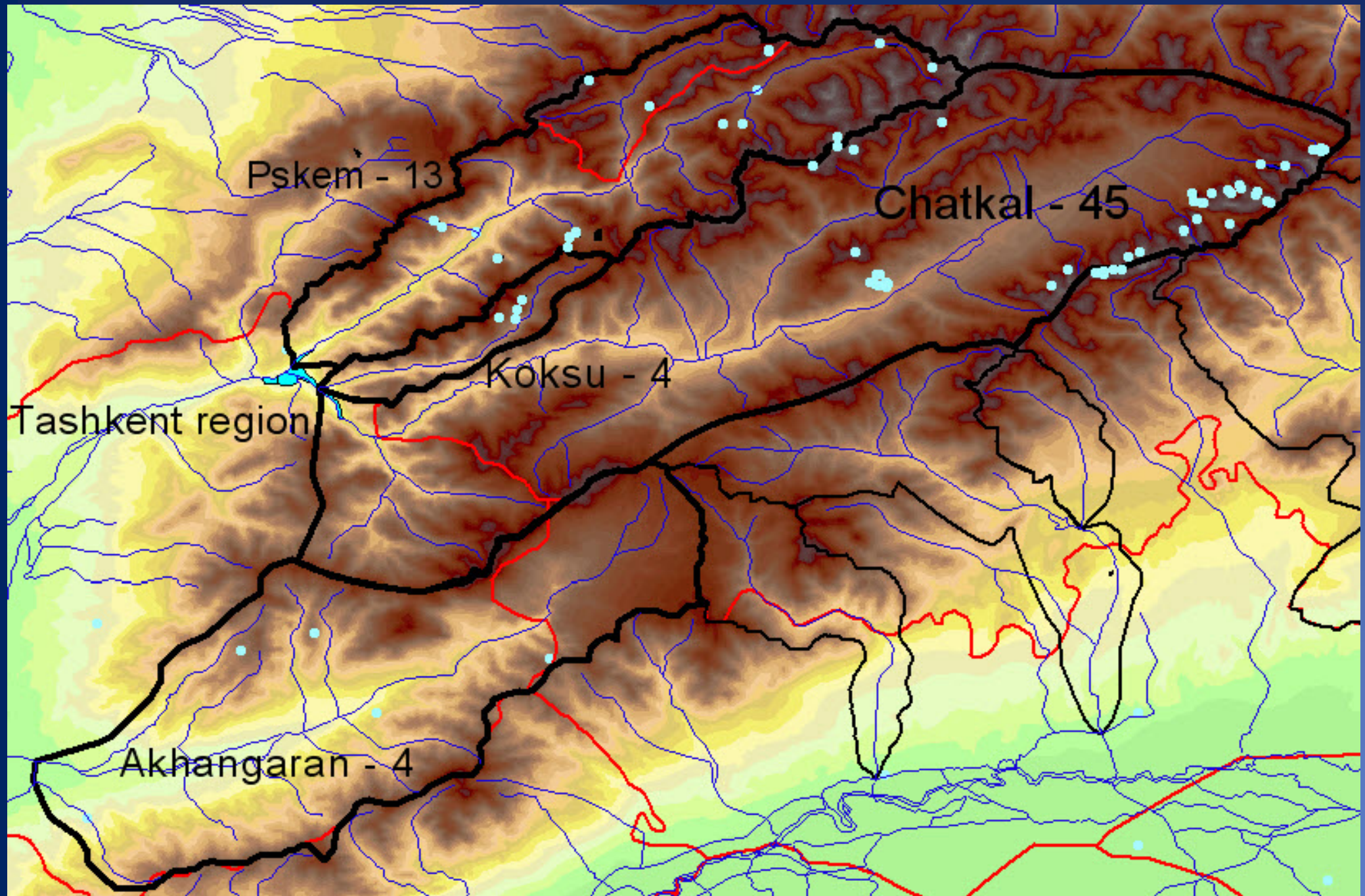


# The process of choice of the lake



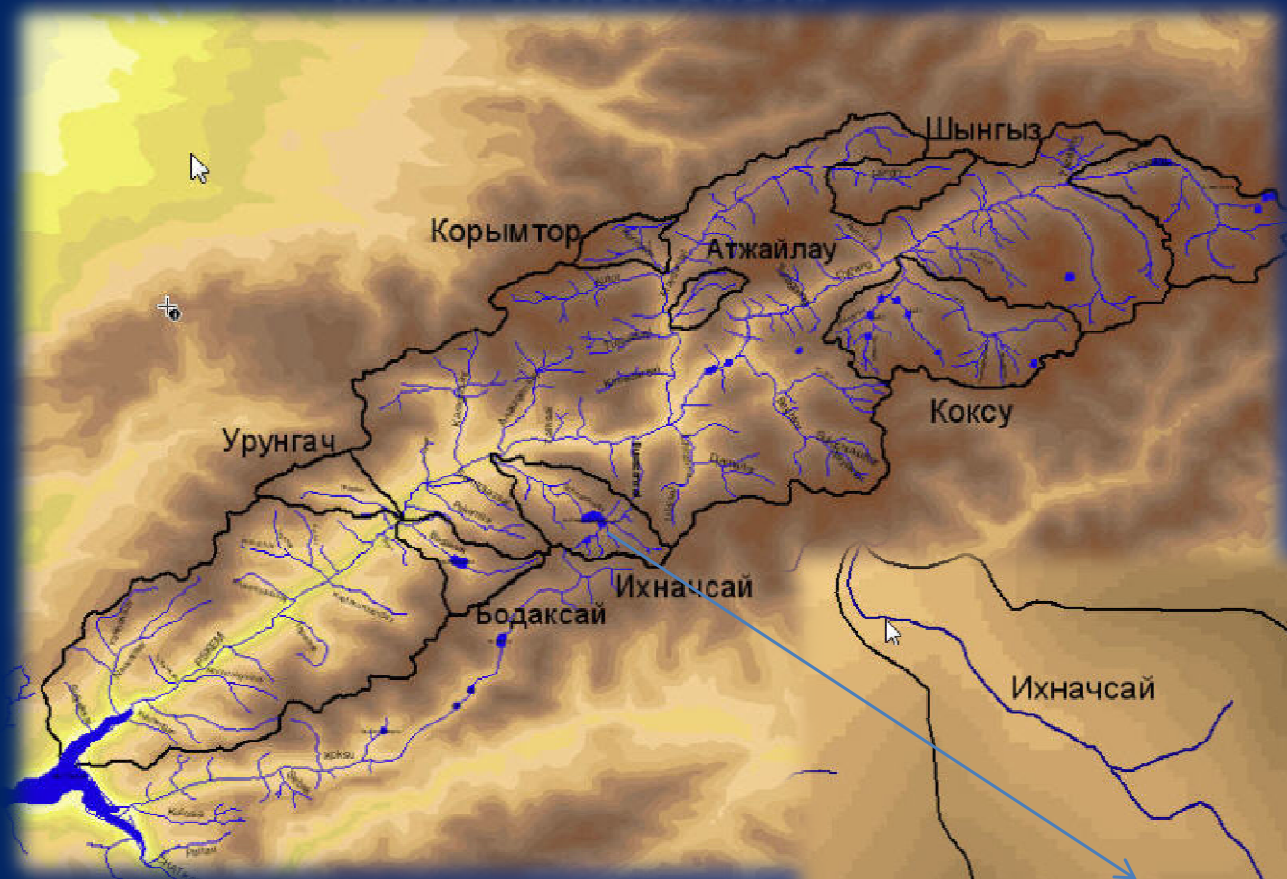


# CHIRCHIK - AKHANGARAN RIVER BASIN





# PSKEM RIVER BASIN



# IHNACHSAI RIVER BASIN



**Lake – Ikhnach big**



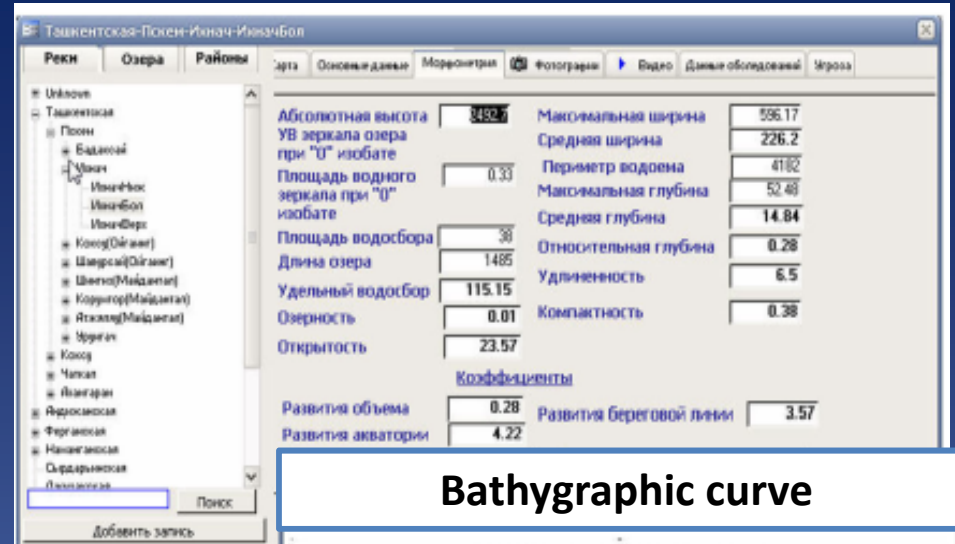
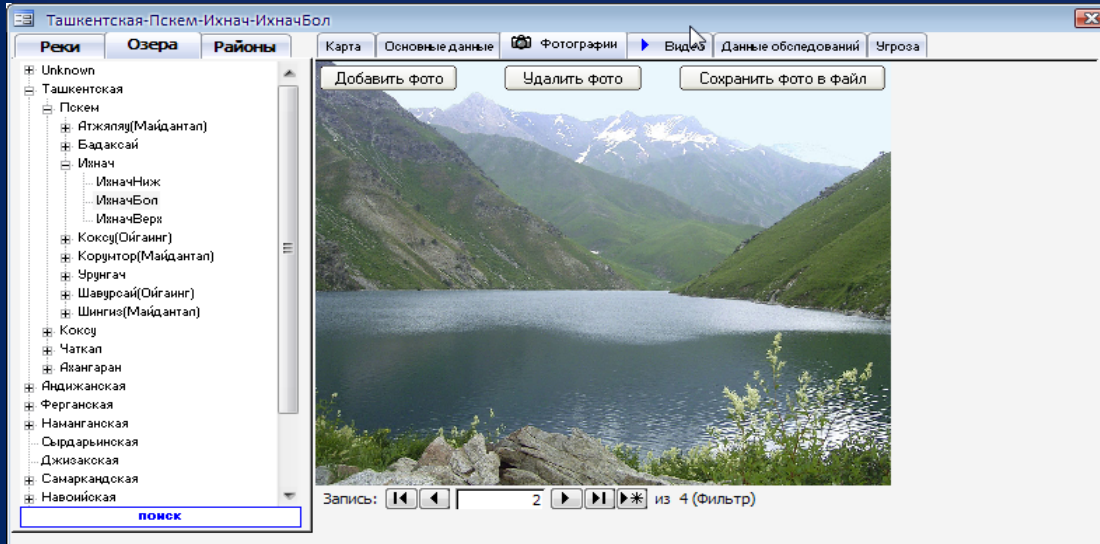
**Lake - Ikhnach lower**



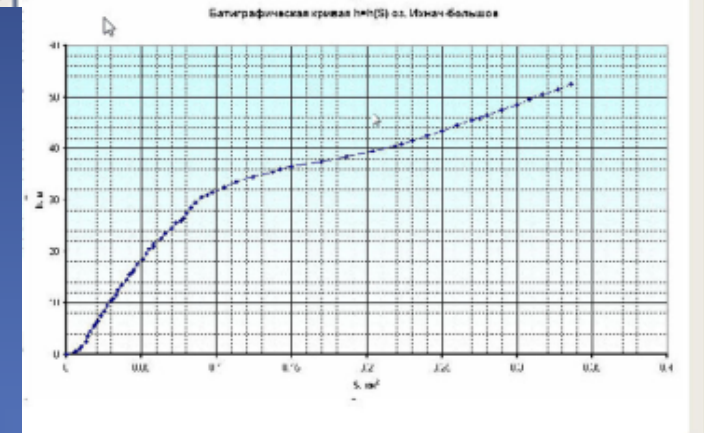


# Pictures and video material

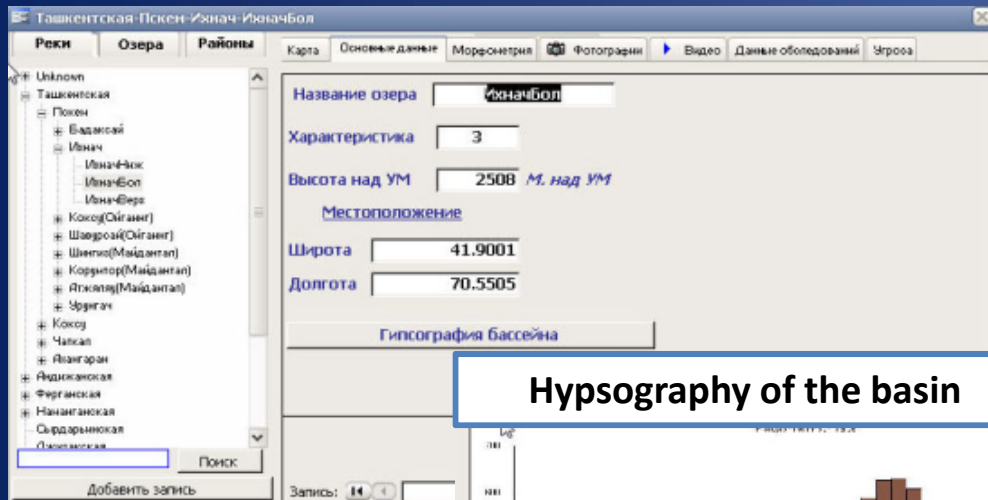
# Morphometric characteristics of lake



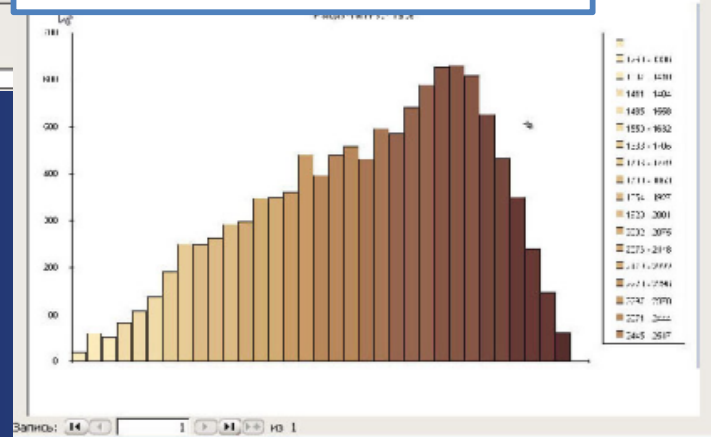
## Bathymorphic curve



## The geographical position of the lake

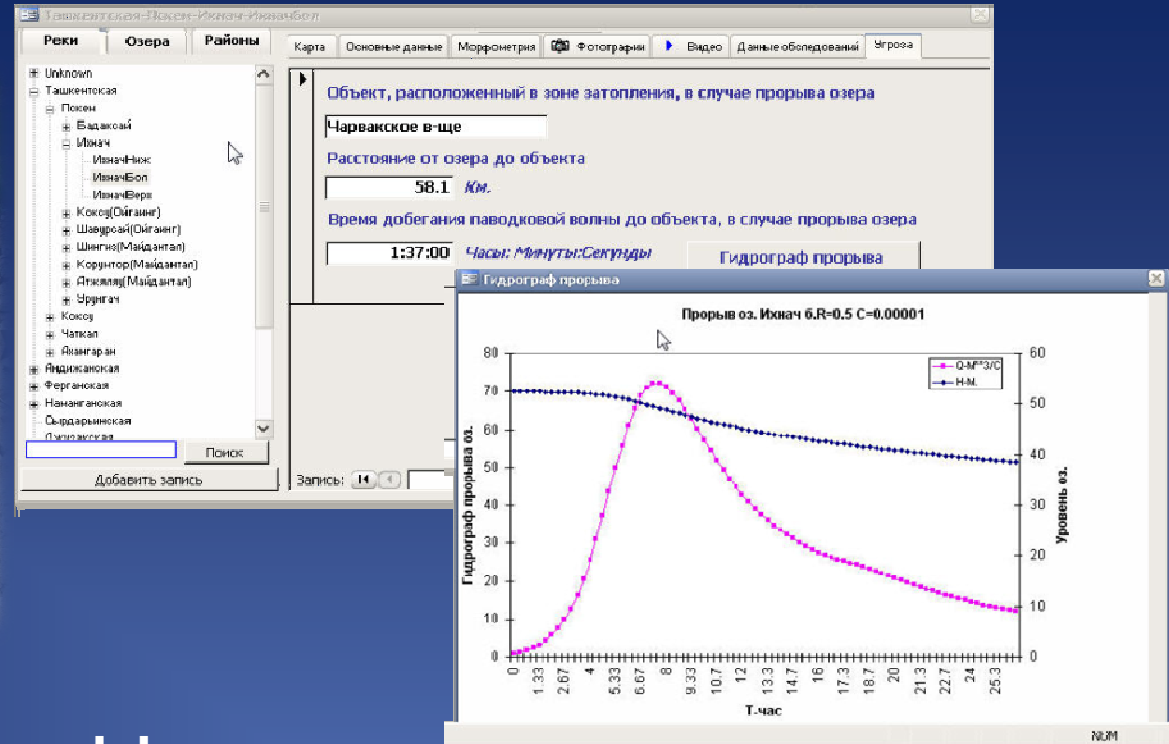


## Hypsography of the basin

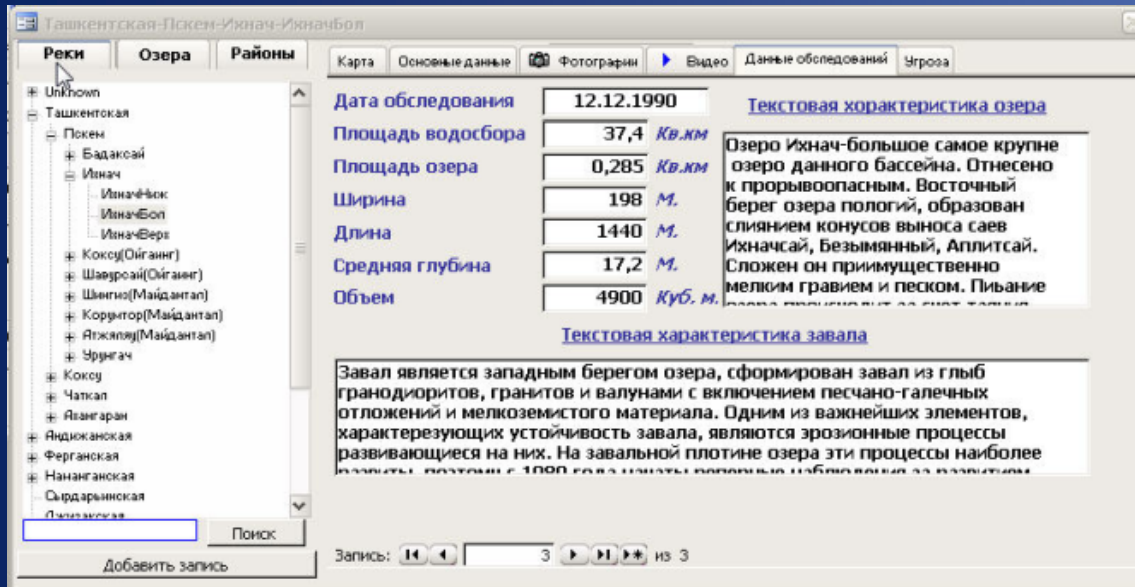




# A possible breakthrough hydrograph

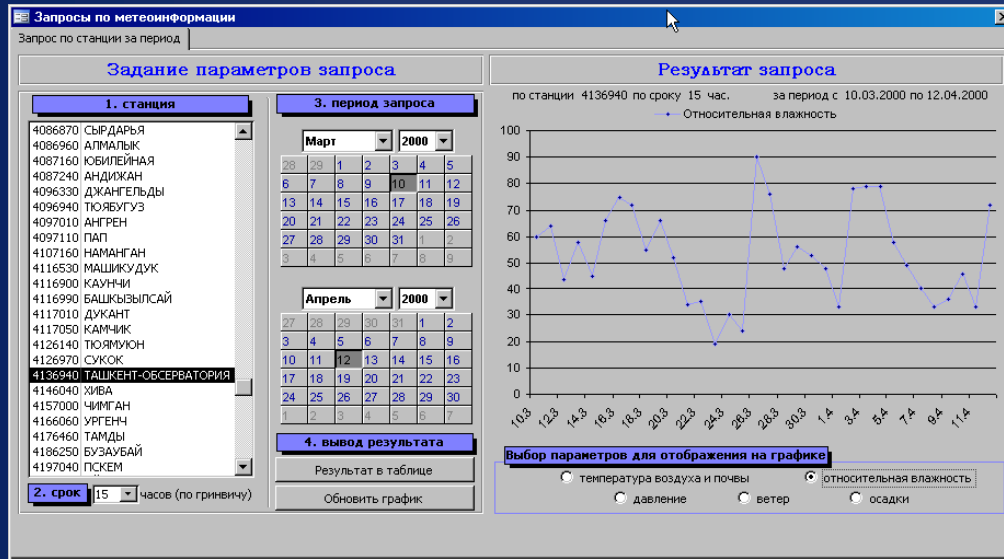


## Text characteristics of the lake and dam

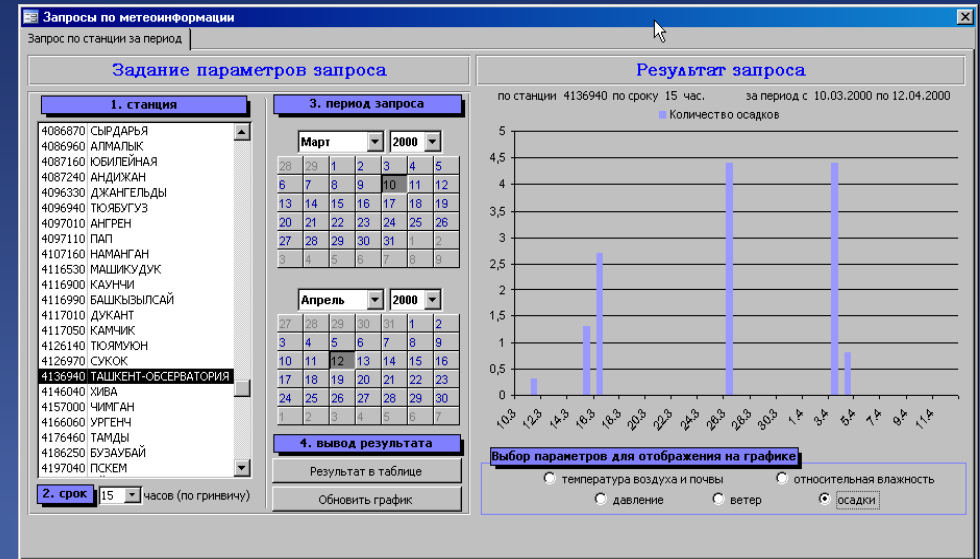


For the analyze of the situation in the Lake basin the meteorological information from the stations located near the lake can be viewed:

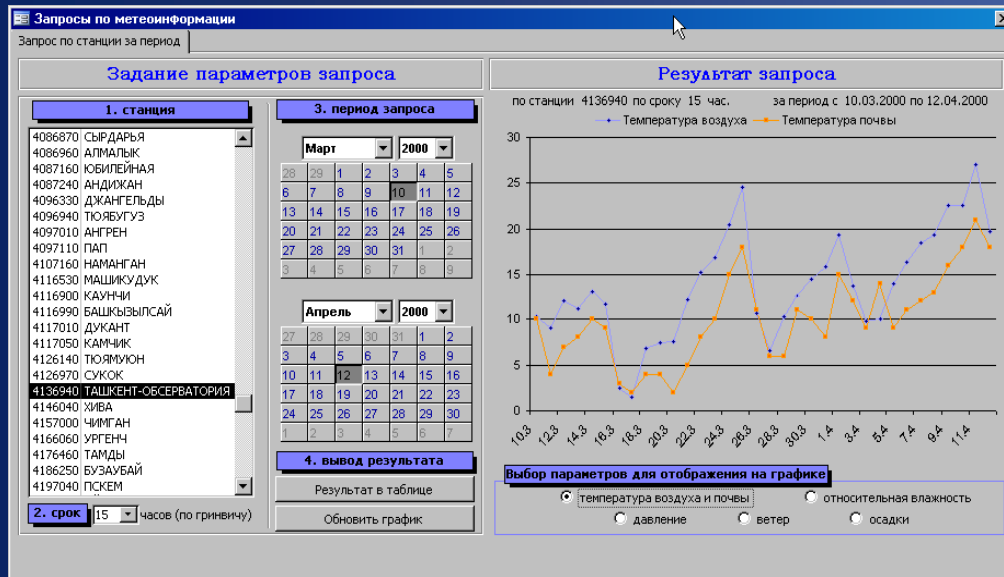
the humidity



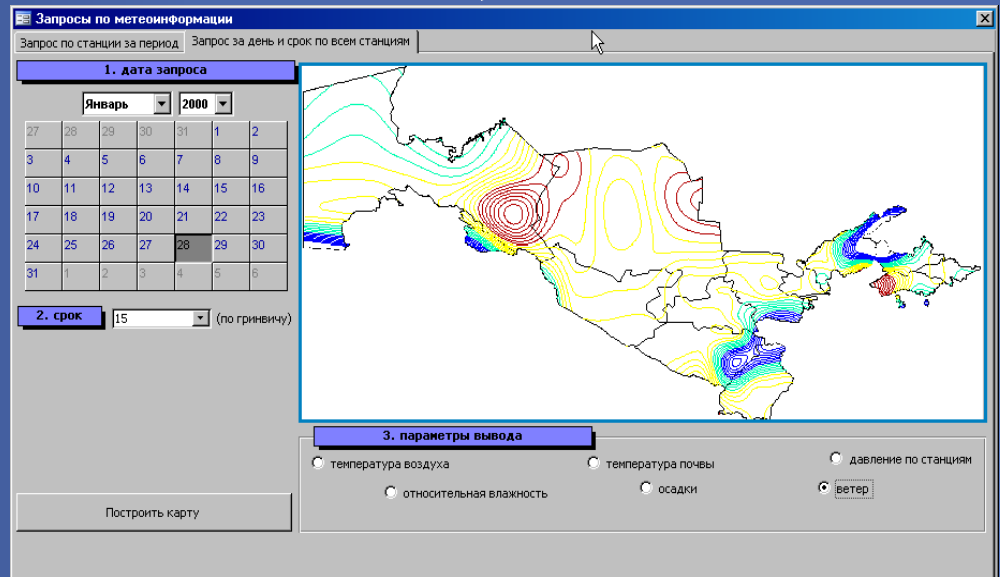
precipitation



air and soil temperature



wind, etc.





## Necessary steps to improve monitoring are:

- ✓ Ensure the infrastructure for the collection, transmission and processing of hydrometeorological data (air temperature, precipitation, snow accumulation, water levels, etc.) directly from the object and the representative mountain glacier basin;
- ✓ Develop criteria for operational assessment of the stability of the object and the risk of an emergency situation according to the comprehensive monitoring of the state of the object;
- ✓ Carry out the practical implementation of theoretical concepts for the formation and movement of the flood formed after outburst of glacial lake, speed of movement of flood wave and areas of possible flooding;
- ✓ To develop the concept of the practical implementation of an early warning system and preventive measures on the basis of the integrated monitoring.

***Thank you for your attention !***

